

**Apparatus and Methods For Constructing Antennas Using  
Vias as Radiating Elements Formed in a Substrate**

**Abstract of the Disclosure**

Antennas are provided which are constructed using one  
5 or more conductive via stubs as radiating elements formed in  
a substrate. The antennas can be integrally packaged with  
IC chips (e.g., IC transceivers, receivers, transmitters,  
etc.) to build integrated wireless or RF (radio frequency)  
communications systems.